INTRODUCTION

This chapter conveys the local, state, and federal agency, as well as the private sector commitment to protect and improve the quality of surface and ground water impaired by construction activities. It will focus on the following construction activities: land disturbing activities; road, bridge, and culvert construction activities; and utility line construction and maintenance. The objective of the Construction Working Group is to stimulate environmental awareness by supporting projects to design, demonstrate, or disseminate methods and techniques to reduce and abate construction nonpoint source pollution.

EXTENT OF PROBLEM

Erosion from unprotected soil, and siltation from land disturbing activities such as residential, commercial, and industrial construction, road, bridge, and culvert construction are major contributors of nps pollution. Construction activities impact streams and lakes by impairing their designated uses. According to the 1998, 303(d) List, 341.1 miles of streams are partially supporting and 30.3 miles are not supporting. Documented construction impacts to Tennessee's lakes are minor, with 7 acres not supporting their designated uses. The most common effects of construction on the waters of the state are siltation and habitat alteration. Construction activities convert farmlands and forested areas into roads, housing developments, and shopping centers. When this occurs in a given watershed, the amount of impervious surface area of the watershed greatly increases. This means that when it rains, there is less land area available for the rain to soak into, so runoff increases. For any given rainfall event, the quantity and speed of the water running to streams dramatically increases. This can result in flooding and streambank erosion, as well as increased sediment transport. Water quality to support drinking water supplies, recreation, and fish and aquatic life receive the greatest impacts from increase impervious area due to construction activities, according to the 1998, 305(b) Report.

The efforts in Tennessee have been focused upon the installation of BMPs, and training of professionals to utilize BMPs in large-scale operations. While some overlap exists between this chapter and the hydrologic modification and urban runoff chapter, it is important to include those items as they pertain to construction. Other problems include dust generation and its deposition on roadways and highways near construction sites.

Sediment is the most common form of pollution washed from work sites, creating multiple problems once it leaves the site. Sediment not only harms fish and aquatic life, but also can increase the risk of flooding by blocking storm drains and gutters. Sediment also can carry with it pollutants from construction sites. The obvious solution is to stop or reduce runoff contamination from the construction site before it begins. Very few

construction problems have only one solution. Most sites need a number of Best Management Practices (BMPs) applied to them. These combination BMPs are often the most effective. Other solutions include educating the public, as well as training the construction contractor.

1998 303(d) list with Construction as a pollutant source

Waterbody ID	Impacted Waterbody
Upper Cumberland River	
TN05130201041	East Camp Cr
TN05130106007	Roaring River
Lower Cumberland River	
TN05130202007	Mill Creek
TN05130204001	Harpeth River
TN05130204002	Jones Creek
Holston River Basin	
TN06010104001	Holston River
Upper Tennessee River Basin	
TN06010201TURKEYCR	Turkey Creek
Lower Tennessee River Basin	
TN06020001007	S. Chickamauga Cr
Western Tennessee Basin	
TN06040001072	Hardin Creek
Hatchie River Basin	
TN0801020**8**027	Piney Creek
Mississippi River Basin	
TN08010100002	Mc Kellar Lake

SOLUTIONS

BMPs for Construction-Land Disturbing Activities

1. Staked Hay Bales
2. Silt Fences
3. Buffer Strips
4. Sediment Structures
5. Brush Barriers
6. Clearing and Grubbing Constraint
7. Temporary Berms
8. Temporary Seeding
9. Sodding
10. Stabilization with Erosion Control Fabric and Netting
11. Bank Stabilization
12. Temporary Gravel Construction
13. Construction Road Stabilization
14. Storm Drain Inlet Protection
15. Temporary Diversion Dike
16. Temporary Fill Diversion
17. Diversion

BMPs for Road, Bridge, and Culvert Construction – Land Disturbing Activities

1. Staked Hay Bales and Silt Fences
2. Buffer Strips
3. Sediment Structures
4. Check Dams
5. Brush barriers
6. Clearing and Grubbing Constraint
7. Temporary Berms
8. Temporary Slope Drains
9. Temporary Seeding
10. Waterspreading
11. Waterways
12. Temporary Stream Crossings
13. Nonerodible Cofferdams
14. Prohibition of Construction Debris
15. Channel Modification
16. Sodding
17. Bank Stabilization
18. Temporary Diversion

BMPs for Electric Line Construction and Maintenance

1. Access Road Measures
2. Right of Way Clearing and Construction
3. Structure Controls
4. Vegetative Controls
5. Good Housekeeping
6. Herbicide Use
7. Stormwater Discharge

Governmental Services/Regulations/Programs

1. Slope and gully stabilization programs
2. Planting programs – green belts, vegetative buffers, streamside management zones
3. Regulation of the application of fertilizers, and, pesticides
4. Effective zoning to encourage proper land use
5. Effective building codes and enforcement which require:
   - Optimum conservation practices during construction
   - Post-construction runoff characteristics no greater than pre-construction conditions
   - Contractor awareness of and proficiency in using conservation practices
   - Education and information program efforts to increase public awareness of conservation practices.

Urban Sprawl
Tennessee has made a large step toward addressing urban sprawl in the state. The 1998 Public Law 1101 indirectly effects water quality by requiring cities and counties to develop 20-year growth plans. The deadline set by the General Assembly for completing and approving the plans is July 1, 2001. The need to balance opportunities for economic development with an increasingly heavy burden on infrastructure and services has characterized the plans in many areas.

Tennessee Erosion Control Training Program
TDEC-WPC, partnering with UTCIS, UTWRRC, TDOT, Metropolitan Davidson County, City of Chattanooga, and TDANPS, is developing an erosion control training program. TDEC-WPC has contracted with UTCIS and UTWRRC to develop the materials for the training program. An associated video is being produced by UTCIS with 319 financial support. The program will develop two certifications: a Specialist I who will be trained to apply and maintain an erosion control plan, and a Specialist II who will be trained, along with other expertise, to develop and supervise erosion plans development. Training for this voluntary program is scheduled to begin in the summer of 2000, at four sites across the state.

COOPERATING PARTNERS

Partners	Abbreviation
Associated Builders and Contractors	ABC
City of Chattanooga	COC
Environmental Protection Agency	EPA
Federal Highway Administration	FHWA
Home Builders Association of Tennessee	HBAT
Tennessee American Planning Association	TAPA
Tennessee Association of Conservation Districts	TACD
Tennessee Contractors Association	TCA
Tennessee County Services Association	TCSA
Tennessee Department of Agriculture	TDA
Ag Resource Conservation Fund	ARC
Tennessee Department of Economic and Community Development: Office of Local Planning	TDECD
Tennessee Department of Environment and Conservation	TDEC
Division of Water Pollution Control	WPC
Tennessee Department of Transportation	TDOT
Tennessee Housing Development Authority	THDA
Tennessee Municipal League	TML
Tennessee Resource Conservation and Development Council	TNRC&D
Tennessee Association of Utility District	TAUD
Tennessee Valley Authority	TVA
United States Army Corps of Engineers	USACE
United States Coast Guard	USCG
University of Tennessee Institute of Agricultural	UTIA
University of Tennessee	UT
Civil & Environmental Engineering Department	UTCEED

Tennessee Water Resources Research Center	UTWRRC
University of Tennessee Center for Industrial Services	UTCIS
USDA	USDA
Natural Resources Conservation Service	NRCS
Farm Services Agency	CFSA
UT County Technical Assistance Service	CTAS
UT Municipal Technical Advisory Service	MTAS

Several agencies have programs to control nps pollution resulting from construction activities. These agencies include USACE, TVA, TDOT, and TDEC. The following discussion describes the responsibilities and programs of each of these agencies.

Home Builders Association of Tennessee (HBAT)
The Home Builders Association of Tennessee is a not-for-profit trade association comprised of professional builders, developers, and associated firms engaged directly or indirectly in home building, remodeling, and light commercial construction. Educate our members and encourage excellence in construction.

Tennessee Department of Economic and Community Development (TECD)
TECD assists existing firms and recruits new development, as well as assisting communities to capitalize on economic development opportunities. Through its regional local planning assistance offices, it also provides land use regulation and planning assistance to municipalities and counties on a contract basis. The Local Planning Assistance Office Internet site is *http://www.state.tn.us/ecd/locplan.htm*

UT County Technical Assistance Service (CTAS)
To promote better county government through the provision of direct assistance to county officials in developing and implementing ideas and methods for improving service to citizens within the legal framework of the Tennessee Constitution and laws enacted by the Tennessee General Assembly

UT Contractor Resource Center (CRC)
The UT CRC provides a wide range of assistance for small businesses that are certified by the Tennessee Department of Transportation (TDOT). The CRC has staff consultants that travel to company offices or work sites anywhere in the state of Tennessee providing one-on-one consultation. Services include technical, information technology and business management assistance and formal classroom training and workshops.

Tennessee Resource Conservation and Development Councils (TNRC&D)
The Resource Conservation and Development (RC& D) program provides technical assistance to local communities (multi-county areas known as "RC&D areas") to improve their economies, natural resources, and living standards by coordinating conservation and rural development assistance available from USDA, other federal, state, and local sources.

Tennessee Utility District Association (TAUD)
TAUD serves over 500 utilities and businesses in the state of Tennessee. Their staff of water, wastewater, and cross connection experts is available to assist and answer questions. On-site technical assistance is available at city and county utilities by TAUD staff, specializing in water and wastewater operations.

Tennessee Housing Development Authority (THDA)

The Municipal Technical Advisory Service (MTAS)
Purpose: Help Tennessee cities be the best they can be.
Mission: To meet the challenge of providing timely, valuable information and assistance to Tennessee cities to build better communities.
MTAS is a technical assistance provider with consultants who specialize in most areas of municipal operations. The Tennessee Municipal League, the lobbying arm for the state's cities and towns, turned to the General Assembly and asked for technical help for its members. The league wanted that help to be independent of politics. The result was MTAS, now an agency of The University of Tennessee's Institute for Public Service.
MTAS is funded by a direct state appropriation and a portion of the local share of the state wide sales tax. MTAS annually completes more than 1,000 municipal management projects and averages about 13,000 other services each year. The MTAS Library is the most comprehensive collection of municipal government related information in Tennessee and one of the most extensive municipal research centers in the country. Services provided by the staff of this library are also available to all Tennessee city officials at no charge. Library services available to Tennessee city officials include reference and research services, database searches, information and referral services and individual surveys of cities to gain information of specific interest.

United States Army Corps of Engineers (USACE)
The USACE regulates activities in navigable waters of the U.S. under the Rivers and Harbors Act of 1899 (RHA). The Act prohibits the unauthorized obstruction or alteration of any navigable water of the U.S.

All work performed on, over, or under navigable waters requires review and permit authorization under the Act, with the exception of bridges and causeways that must be approved by the U.S. Coast Guard under CFR Title 33, Vol.1, Parts 1 – 124. Examples of work requiring approval include mooring cells and dolphins, commercial barge docks, breakwaters, recreational docks and piers, launching ramps, aerial power line crossings, submarine pipeline crossings, dredging, fills, rip rap, retaining walls, intakes, and outfalls.

Section 404 of the Clean Water Act (CWA) regulates any discharge of dredged or fill material into all waters of the US, including wetlands. The act authorizes the USACE to issue permits for discharges of fill material in waters after appropriate public review, which may include issuance of public notices. The Environmental Protection Agency (EPA) has oversight of the Section 404 Program and can restrict discharges into certain areas after compliance with established procedures. Water Quality Certification is required from TDEC. The USACE is actively involved in evaluating watershed problems, particularly in the Nashville area. Section 10 Permits are required for navigable streams not covered by a Coast Guard Bridge Permit.

Tennessee Valley Authority (TVA)
TVA is a federal agency that operates and manages the dams and reservoirs on the Tennessee River system for multipurpose development. The following programs cover activities associated with hydrologic modification and construction activities:

Section 26a Review and Approvals Section 26a of the TVA Act requires that TVA's approval be obtained prior to the construction, operation, or maintenance of any dam, appurtenant works, or other obstruction affecting navigation, flood control, or public lands and reservations across, along, or in the Tennessee River or any of its tributaries. Such obstructions include, but are not limited to, boat docks, piers, boat houses, rafts, buoys, floats, boat-launching ramps, bridges, aerial utility crossings, and fills.

If the construction, maintenance, or operation of a proposed facility or structure, or any part thereof for which approval is sought may result in any discharge into navigable waters of the US, the applicant must also submit a certification in accordance with Section 401 CWA. This certification documents, with reasonable assurance, that the proposed activity will not violate applicable water quality standards. The applicant must provide an erosion and sediment control plan for projects, activities, or actions that, in TVA's judgment, have the potential for a substantial adverse impact.

A number of federal (USACE, EPA, USGS) and state programs regulate some of the activities that are covered under Section 26a. However, no program, other than statutory authority, expressly mandates the consideration of the three areas specified in Section 26a of the TVA Act--navigation, flood control, and public lands or reservations in terms of the unified development and regulation of the Tennessee River and its tributaries. The TVA cooperates closely with other agencies having similar regulatory responsibilities. Such cooperation between USACE and TVA has substantially improved understandings between the agencies, increased the opportunity for public input to the review and approval process, and reduced the paperwork burden placed on Section 26a applicants.

Tennessee Department of Transportation (TDOT)
TDOT operates under federal and state laws and regulations for the construction of highways, bridges and culverts. The following is a list of guidelines and other documents TDOT uses to control erosion from their projects.

- Standard specifications for Road and Bridge construction
- A Policy on Geometric Design of Highways and Streets
- Best Management Practices for Erosion and Sediment Control
- Reducing Nonpoint Source Water Pollution by Preventing Soil Erosion and Controlling Sediment on Construction Sites, A Training Manual for Construciton Inspection Personnel.

The design uses these guidelines and field information to plot the drainage patterns associated with the project and must develop an erosion control plan that is incorporated into the construction plans. Appropriate notes are included on the plan sheets as guidance for the contractor in implementing the plan. It is the responsibility of the assigned project engineer to ensure that the erosion control plan is implemented. Any improvements or adjustments to the erosion control plan are made at the discretion of the project engineer.

All grade and drain projects crossing or impacting jurisdictional wetlands require a Section 404 (CWA) Permit. Any construction project that impacts waters of the state requires an Aquatic Resource Alteration Permit (ARAP) under the Tennessee Water Quality Control Act (TWQCA). Any construction project that disturbs more than five acres of land requires an NPDES permit. These permits require the implementation of BMPs to control erosion and minimize pollution.

The TDOT has a Technology Transfer and Research Program through which the department tests new materials, develops training courses and manuals, and conducts research that will benefit TDOT in constructing a safe, efficient, and environmentally sensitive transportation system.

A new Environmental Coordinator position has been established in each of TDOT's regional offices across the state. The Environmental Coordinator is responsible for reviewing erosion control plans and making on-site inspections to ensure that erosion controls are implemented and properly installed.

The effectiveness of erosion controls is improved by compliance checks and routine follow-up on recommended practices throughout the construction process. Cooperation between TDOT contractors and subcontractors is mandatory in implementing a successful erosion control plan. The continuing training of TDOT personnel, contractors and subcontractors is reinforcing the need for erosion control BMPs.

Tennessee Department of Environment and Conservation, Water Pollution Control (TDEC-WPC)

State water pollution control regulatory programs are authorized by the Tennessee Water Quality Control Act, (T.C.A. 69-3-101, et seq.). TDEC-WPC has the responsibility of requiring permits for projects that alter the physical, chemical, biological, bacteriological, or radiological properties of waters of the state. This includes such activities as gravel dredging, some water withdrawals, and channel alteration activities. A summary of specific programs within WPC that address activities related to nps pollution follows.

State Water Quality Permit

Since the Water Quality Control Act was passed, TDEC-WPC issues water quality permits for a variety of activities that may impact the waters of the state, but do not have a point source discharge and are not covered by the NPDES program. Examples of these activities include sand and gravel dredging not requiring an individual Federal 404 (CWA) or Section 10 (RHA) permit, bridge construction, and stream channel alterations.

In 1985, the establishment of the ARAP program improved consistency and uniformity of water quality permitting. Seventeen General Permits are currently established. These permits are as follows: launching ramp construction; bridge scour repairs; emergency road repair; road crossings; sand and gravel dredging; stream restoration and habitat enhancement; utility line crossings; minor wetland alterations; wet weather conveyances; stream bank stabilization; surveying and geotechnical exploration; minor dredging; alteration and restoration of intermittent

streams for mining; maintenance activities; relocation of intermittent streams; wetlands restoration and enhancement; impoundment of intermittent streams.

General permits specify circumstances under which each applies, and establish conditions equivalent to BMPs that must be followed for an activity to be authorized by the general permit. Other alterations may be authorized by individual ARAPs. State water quality permitting for hydrologic modification permits are closely coordinated with USACE and TVA. The intent of all permits is to maintain the ability of the state's waters to support classified uses. An ARAP Handbookis available at:
http://www.state.tn.us/environment/permits/handbook/arap.htm.

OHV: Off-Highway Vehicles Committee
The NPS program, along with many other state, federal, and private organizations, is part of a committee initiated by the Tennessee Environmental Policy Office to review state policies governing the use of off-highway vehicles. These vehicles, which include 4x4s, ATV's, dirt bikes, and motorcycles, are increasing in popularity and use. A variety of issues are being discussed including noise and environmental impact, and trail sharing with other outdoor enthusiasts. Issues of liability for private, state, and federal landowners must be also addressed, as well as regulations against trespassing. The strategic planning process will likely last one year. The Committee will recommend how Tennessee should manage this form of recreation. The Committee is being supported by grants from TEA-21, EPA, and TDANPS.

OTHER FUNDING SOURCES

Additional funding sources for environmental projects are listed in the Catalog of Federal Funding, which can be found at: www.aspe.os.dhhs.gov/cfda

CURRENT 319 PROJECTS

The following is a list of current and proposed 319 projects for construction.

Grant Yr.	Project Title
FY-96	UT Urban Manual/workshop (phase I)
FY-97	Construction video
FY-98	UT Urban Manual/workshop (phase II)
FY-99	Five Rivers: Urban NPS Demo & Education
FY-99	Smokey Mountains: TN Valley Urban NPS
FY-99	Pigeon Roost Creek Urban Runoff
FY-2000	OHV: Off-Road Vehicles Committee

AREAS FOR PROGRAM EXPANSION

- Enlarge the Construction Working Group to include all interested groups.

- Develop education initiative focusing on the importance of stable streams and their association with surface water quality.
- Develop statewide public awareness campaigns reaching property owners, construction companies, developers, city, and county officials.
- All county governments need to initiate programs addressing environmentally sensitive land use and development.
- Develop more projects to demonstrate technologies for construction in ecologically sensitive areas.
- Broaden the contractor certification program.

ENFORCEMENT MECHANISMS

A main goal of the TN Water Control Act is to prevent water pollution through permitting and enforcement provisions. Violations of permits or engaging in any non-exempt activity, which results in water pollution can result in civil penalties or even criminal prosecution.

TENNESSEE ANTIDEGRADATION POLICY

Tennessee's Antidegradation Statement is found in the Tennessee Department of Environment and Conservation Rule 1200-4-3-.06. . The primary purpose of the antidegradation policy is to establish a greater level of protection for those waters that are identified to be of high quality. Some high quality waters are those at near pristine conditions. Others are determined to be high quality due to specialized uses and/or unique features. Generally, there are two types of high quality waters. Outstanding National Resource Waters (ORNWs), or Tier 3 waters, are specifically designated by the Water Quality Control Board and are afforded the greatest level of protection. No new discharges, or expansion of existing discharges, are allowed to result in degradation of the existing water quality. Other high quality waters are identified by the Department as Tier 2 waters, which are also protected against degradation. Some degradation may be allowed only if the Water Quality Control Board deems it economically and socially necessary. Other surface waters not specifically identified and/or designated as high quality are referred to as Tier 1 waters. Tennessee's Water Quality Standards must be achieved and/or maintained in these waters.

Certification of Federal Permits

In addition to state permits, WPC processes Section 401 water quality certifications, as required by the CWA. Certifications are for federal permits issued by USACE, the USCG, FERC, and TVA. Most federal permit reviews are of USACE Section 404 permits for discharge of dredged or fill materials associated with stream relocations and channelization, work in wetlands, bridge construction and commercial and recreational dock facilities. Through the conditions of these permits, WPC regulates NPS pollution from activities involving the deposition of fill material in waters of the state, including wetlands.

National Pollutant Discharge Elimination System (NPDES) Permits

NPDES Permits are required for developments of five acres or more. http://www.state.tn.us/environment/permits/npdes.htm. TDEC carries out the NPDES mandate. About 800 sites are permitted each year, for road building projects,

commercial and industrial development, golf courses, residential development and installation of utility lines. Compliance and enforcement actions are followed and occasionally result in civil penalties against violators.

Class V Injection Well Permit
A Class V Injection Well permit is required for any project that affects flowing water into an open sinkhole or cave. This permit addresses any impact that may affect the groundwater via a sinkhole.

Tennessee Wildlife Resources Agency
Reelfoot Watershed Management Permit
This permit is required for all projects that affects water flowing into the drainage basin of Reelfoot Lake. This permit requires a joint application to TDEC.

Unites States Coast Guard
Coast Guard Bridge Permit
This permit is required for projects that impact streams deemed navigable by the Coast Guard. Water Quality Certification is required by TDEC-WPC.

MEASURES OF SUCCESS

- All Tennesseans realize the importance of stable and functioning streams and their association with land use and water quality.
- All development takes into consideration the hydrology of the area and builds to retain pre-development hydrology.
- All county governments have initiated locally operated programs, which seek development in an environmentally sensitive manner.
- All streams on the 303(d) list because of hydrologic modification have been removed and no new waters are added.

MILESTONES

Long Term Goal 1.

Hold regularly scheduled meetings with stakeholders, in person or through electronic means, to strengthen existing partnerships and to foster greater trust, commitment and accountability.

- **Action 1**: The Construction-Hydrologic Modification Working Group (CHWG) will meet semi-annually.
  Lead: TDA-NPS Program
  Key Partners: ABC, COC, EPA, FHWA, TAPA, TACD, TCA, TCSA, TDA-ARC, TDECD, TDEC-WPC, TDOT, THBA, THDA, TML, TNRC&D, TUDA, TVA, TWRA, USACE, USCG, UTAES, UTCEED, UTWRRC UTCIS, USDA-NRCS-CFSA, CTAS, MTAS, Consultants.
  Year(s): 2001-2005

- **Action 2**: Increase CHWG membership by one member each year.
  Lead: TDA-NPS Program
  Key partners: CHWG
  Year(s): 2001-2005

- **Action 3**: Establish a CHWG mission statement, a list of collective capabilities, and priorities for funding.
  Lead: CHWG
  Year(s): 2001-2005

- **Action 4**: Work with other agencies to develop construction projects.
  Lead: CHWG and TDA-NPS Program
  Key partners: CHWG
  Year(s): 2001-2005

- **Action 5**: Develop Memoranda of Agreement with key federal agencies to improve programmatic consistency.
  Lead: TDA-NPS Program
  Key Partners: All federal agency partners
  Year(s): 2001-2005

Long Term Goal 2.

Fully implement all developed TMDLs for nonpoint sources in compliance with existing regulations, policies, or agreements by 2015.

Refer to Chapter 1.11, TMDL Implementation for specific action items related to this Long Term Goal.

Long Term Goal 3.

Restore all waters impaired by nonpoint sources that are listed on the 1998 303(d) List to the condition of fully supporting their designated uses by 2015, in cooperation with local, state and federal partners.

- **Action 1**: 20% of the streams impaired due to construction on the 1998 303(d) List will support their designated uses.
  Lead Agencies: TDA-NPS Program
  Key partners: CMWG
  Year(s): 2005

- **Action 2**: 40% of the streams impaired due to construction on the 1998 303(d) List will support their designated uses.
  Lead: TDA-NPS Program
  Key partners: CMWG
  Year(s): 2010

- **Action 3**: 60% of the streams impaired due to construction on the 1998 303(d) List will support their designated uses.
  Lead Agencies: TDA-NPS Program
  Key partners: CMWG
  Year(s): 2015

- **Action 4**: Develop at least two 319 funded projects that addresses construction for 303(d) streams.
  Lead: TDA-NPS Program
  Key partners: CHWG
  Year(s): 2001-2005

- **Action 5**: Target Grant Pool Money towards streams on the 303(d) that have pollutant source as construction.
  Lead: TDA-NPS Program
  Key partners: TDA-NPS Program, local SCDs, TNRC&D
  Year(s): 2001-2005

Long Term Goal 4.

Beginning in 2006, through regulatory and non-regulatory means, prevent previously unlisted waters from being included on the 303(d) List because of nonpoint source impairments.

- **Action 1**: Encourage cities and counties to develop construction ordinances and codes.
  Lead: TDEC, TDA-NPS Program
  Key partners: CHWG
  Year(s): 2001-2005

- **Action 2**: Continue to improve implementation of BMPs for construction of roadways and bridges - electric transmission construction and maintenance.
  Lead: TDOT
  Key partners: CMWG
  Year(s) : 2001-2005

- **Action 3**: Continue to achieve the goals outlined in TDOT's Strategic Management Initiatives.
  Lead: TDOT
  Key partners: CHWG
  Year(s): 2001-2005

- **Action 4**: Continue to Investigate complaints, implement strict enforcement of existing regulations on the proper installation and maintenance of erosion control BMPs in the construction of roads, bridges, and culverts.
  Lead: TDEC-WPC
  Key partners: CHWG
  Year(s): 2001-2005

- **Action 5**: Continue to review Standard Specifications and Construction Practices. Revise and clarify, as needed, particularly Section 209 "Project Erosion and Siltation Control".
  Lead: TDEC-WPC, TDOT
  Key partners: CHWG
  Year(s): 2001-2005

Long Term Goal 5.

Improve the knowledge of stakeholders and citizens concerning the origins, magnitude, and prevention of nonpoint source pollution, and how to prevent it.

- **Action 1**: Fund at least one new demonstration project annually demonstrating methods to mitigate construction polluted runoff.
  Lead: TDA-NPS Program
  Key Partners: CMWG
  Year(s): 2000-2015 and beyond

- **Action 2**: Support the Tennessee Erosion Control Training Program.
  Lead: TDEC-WPC
  Key partners: CMWG
  Year(s): 2001-2015

- **Action 3**: Continue TDOT's annual training program for construction and maintenance personnel.
  Lead: TDOT
  Key partners: CMWG
  Year(s): 2001-2015

- **Action 4**: Continue to conduct training and information sessions on erosion control BMPs at TDOT regional workshops.
  Lead: TDOT
  Key partners: CMWG
  Year(s): 2000-2005

- **Action 5**: Develop focused public awareness campaign reaching property owners, construction companies, developers, city, and county officials, developing /adapting and/or reprinting necessary education materials.
  Lead: TDA-NPS program
  Key partners: CMWG
  Year(s): 2000-2005

- **Action 6**: Increase public awareness and understanding of nps issues by developing two new construction demonstration 319 projects.
  Leads: TDA-NPS Program
  Key partners: CMWG
  Year(s): 2001-2005

Long Term Goal 6.

Through the process of continuous improvement, routinely assess all programmatic functions of the TDA-NPS Program in order to maximize efficiency, decrease the bureaucratic burden and increase the numbers of participants in the program.

- **Action 1**: Investigate other funding sources as well as EPA.
  Lead: TDA-NPS Program
  Key partners: CMWG
  Year(s): 2001-2005

Long Term Goal 7.

Use the maximum allowable percentage of funding annually to assist partners with water quality monitoring and assessment, for the duration of the 319 program.

See Chapter 1.9 for action items related to water quality monitoring for the TDA-NPS Program.